

Amendments to the Specification

Please replace the paragraph beginning at page 23, line 5, with the following rewritten paragraph:

Competitive PCR (schematically shown in FIG. 1A)

For selective amplification of genomic DNA from *Microcystis* we used the 16S rDNA primers 5'-AGCCAAGTCTGCCGTCAAATCA-3' (SEQ. ID NO: 16) (CH) and 5'-ACCGCTACACTGGGAATTCCTG-3' (SEQ. ID NO: 17), (CI) (Rudi, K. et al. in Appl. Environ. Microbiol. 63, 2593-2599). The competitor 5'-AGCCAAGTCTGCCGTCAAATCAAGCTG CCTCACTGCGGAGCTCGGACCAGGAATCCCAGTGTAGCGGT-3' (SEQ. ID NO: 1) is an oligonucleotide with sequences complementary to the PCR primers CH-CI, and the primer DK (see below) used in the cyclic labelling reaction. Amplification reactions using the GeneAmp 2400 PCR thermocycler (Perkin Elmer, Norwalk, Conn.) contained 10 pmol primers, 6×10^{-9} pmol competitor, 200 μ M of each deoxynucleotide triphosphate, 10 mM Tris-HCl (pH 8.8), 1.5 mM MgCl₂, 50 mM KCl, 0.1% Triton X-100, 1U of DynaZyme DNA polymerase (Finnzymes Oy, Espoo, Finland) and purified DNA in a final volume of 50 μ l. Prior to amplification, the DNA was denatured for 4 minutes at 94°C. and after amplification an extension step for 7 minutes at 72°C. was included. The cycling was done for 40 cycles using the parameters; 94°C. for 30 seconds, 58°C. for 30 seconds and 72°C. for 30 seconds.

Please replace the paragraph beginning at page 23, line 37, with the following rewritten paragraph:

The cyclic labelling reactions were carried out in 20 μ l volumes containing; 3 pmol primer 5'-GTCCGAGCTCCGCAGTGAGGCAG-3' (SEQ. ID NO: 2) (DK) complementary to the competitor. 3 pmol primer 5'-TCTGCCAGTTTCCACCGCCTTTAGGT-3' (SEQ. ID NO: 3) (DB) complementary to the *Microcystis* amplicon, 10 pmol ddATP, 10 pmol ddGTP, 10 pmol

ddTTP (Boehringer GmbH, Mannheim, Germany), 7 pmol fluorescein-12-ddCTP (NEN, Boston, Mass.), 1.25 µl Thermo Sequenase reaction buffer, 1.1 µl enzyme dilution buffer, 0.15 µl Thermo Sequenase (Amersham International plc, Buckinghamshire, England) and 6 µl phosphatase-treated PCR product. The labelling was done for 25 cycles using the parameters; 95°C for 30 seconds and 50°C for 4 minutes.

Please replace the paragraph beginning at page 24, line 15 with the following rewritten paragraph:

Hybridization and Chromogenic Detection (schematically shown in FIGS. 1C and D)

One µl (100 pmol/.µl) of primer 5'-ACCTAAAGGCGGTGGAAACTGGCAGA-3' (SEQ. ID NO: 4) (DA) and 5'-CTGCCTCACTGCGGAGCTCGGAC-3' (SEQ. ID NO: 5) (DJ) were spotted onto membrane strips (0.4 x 2 cm) GeneScreen (NEN), and then U. V. cross-linked with 5000 joule/cm². Primer DA is complementary to primer DB, and primer DJ is complementary to primer DK. The strips were prehybridized for 2 hours at 37°C in a prehybridization solution containing 0.7 x SSC, 1 x SPEP, 5 x Denhardts and 100 .µg/ml heterologous DNA . The products from the cyclic labelling reactions were added to 0.5 ml hybridization solution (0.7.times.SSC, 1.times.SPEP, 1.times.Denhardts, 10% Dextran sulfate and 100 µg/ml heterologous DNA) in a 2 ml microcentrifuge tube, and denatured at 95°C. for 5 minutes. The strips were added, and the incubation continued with gentle inversion for 2 hours at 37°C. The membrane strips were washed in 50 ml (1 x SSC and 1% SDS), then in 50 ml (0.1 x SSC and 0.1% SDS), and finally twice in 50 ml (0.10 M Tris-HCl [pH 7.5] and 0.15 M NaCl). Each washing was performed by brief vortexing at room temperature.

Please replace the paragraph beginning at page 31, line 31 with the following rewritten paragraph:

TABLE 1 - Oligonucleotide probes

Probes	probe sequences ¹
pKO	5'CCTCTGGTACCGTCAGGTTGCTTTACAA3' (<u>SEQ. ID NO: 6</u>)
pMI3	5'CCCTGAGTGTCAGATACAGCCCAGTAG3' (<u>SEQ. ID NO: 7</u>)
pMI2	5'GCAGGTGGTCAGCCAAGTCTGC3' (<u>SEQ. ID NO: 8</u>)
pDK	5'TCTGCCAGTTTCCACCGCCTTTAGGT3' (<u>SEQ. ID NO: 9</u>)
pPL1	5'TACAGGCCACACCTAGTTTCCATCGTTTAC3' (<u>SEQ. ID NO: 10</u>)
pAL	5'CTGCTGTTAAAGAGTCTGGCTCAACCAGAT3' (<u>SEQ. ID NO: 11</u>)
pAP	5'CCCCTAGCTTTCGTCCTCAGTGTCAGT3' (<u>SEQ. ID NO: 12</u>)
pNOS	5'GCTCAACCARATMARAGCAGTGGAAACTA3' (<u>SEQ. ID NO: 13</u>)
pPL2	5'CAATCATTCCGGATAACGCTTGTCATCC3' (<u>SEQ. ID NO: 14</u>)
pUN	5'CCGTMTTACCGCGGCTGCTGGCA3' (<u>SEQ. ID NO: 15</u>)

¹the primers ~~complememtary~~ complementary to these probe sequences were ~~spoted~~ spotted on the membranes

After the claims, please insert the following separate page containing the Abstract.

After the Abstract, please insert the attached Sequence Listing.